



Scotchlite™

Reflective Material

8830 Silver Marking Film

8886 Fluorescent red-orange Marking Film

8887 Fluorescent lime-yellow Marking Film

Technical Data Sheet

August 1998

Description

3M™ Scotchlite™ Reflective Material - 8830 Silver Marking Film, 3M™ Scotchlite™ Reflective Material - 8886 Fluorescent red-orange Marking Film, and 3M™ Scotchlite™ Reflective Material - 8887 Fluorescent lime-yellow Marking Film are composed of wide angle, exposed retroreflective lenses bonded to a durable cloth backing (94% polyester, 6% nylon), with a pressure sensitive adhesive (PSA) applied to the back of the cloth.

Retroreflective Performance

The coefficient of retroreflection (R_A) is measured by methods traceable to either of the following retroreflective intensity testing procedures:

- ASTM E809 and E810 (R_A)
- CIE 54: 1982 (R')

The R_A values were measured at the listed specific entrance and observation angles.

Product Number	Entrance angle	Observation angle	Typical R_A	Minimum R_A
8830	-4.0°	0.2°	500	330
	+5.0°	0.33°	330	250
8886 and 8887	-4.0°	0.2°	175	138
	+5.0°	0.33°	100	75

Color

Product Number	Daytime Color	Reflected Color
8830	Silver	White
8886	Fluorescent red-orange	White
8887	Fluorescent lime-yellow	White

Physical Performance

Scotchlite reflective material - 8886 fluorescent red-orange marking film and Scotchlite reflective material - 8887 fluorescent lime-yellow marking film meet or exceed the following performance tests for helmet markings as specified in NFPA 1971 Standard, 1997 Edition:

Retroreflectivity:NFPA 1971, 1997 Edition, section 6-46 for test method, section 5-2.15 for requirements

Wet Reflectivity:NFPA 1971, 1997 edition, section 6-46 for test method, section 5-2.15 for requirements per EN 471 Annex A

Fluorescence:NFPA 1971, 1997 edition, section 6-46 for test method, section 5-2.15 for requirements

Convective Heat:NFPA 1971, 1997 edition, section 6-46 for test method, section 5-2.15 for requirements per Convective Heat Exposure Test

Performance

While use of 3M™ Scotchlite™ Reflective Material enhances visibility, no reflective material can guarantee absolute visibility, particularly in adverse weather conditions. Performance will vary depending upon actual use, exposure conditions and maintenance. Users should test reflective material to satisfy conformance to their own requirements.

Application Instructions

3M™ Scotchlite™ Reflective Material - 8830 Silver Marking Film, 3M™ Scotchlite™ Reflective Material - 8886 Fluorescent red-orange Marking Film and 3M™ Scotchlite™ Reflective Material - 8887 Fluorescent lime-yellow Marking Film have a release liner on the PSA surface. Remove the liner prior to application to clean, dry, smooth surfaces. Position the film and press firmly into place. Allow 72 hours for adhesion to reach its maximum strength.

Care and Maintenance Instructions

Important: Test each application according to appropriate care instructions required for the finished product. Actual life of Scotchlite reflective material marking film depends on cleaning method and wear conditions. Use of pressure sensitive adhesives are not recommended for permanent clothing applications that require wash durability.

Care Recommendation: Damp wipe only, using warm water and mild detergent. Rinse thoroughly, dry with a soft cloth or allow to air dry.

Product Availability

Scotchlite reflective material - 8830 silver marking film, Scotchlite reflective material - 8886 fluorescent red-orange marking film, and Scotchlite reflective material - 8887 fluorescent lime-yellow marking film are available in rolls with the following standard widths and roll lengths:

Units	Width	Width Tolerance	Standard Roll Length
inches	< 6"	± 1/32"	100 yd.
inches	6" ≤ w < 36" ≥ 36"	0" to + 1/8" + 1/8" to + 1/4"	100 yd. (> 12" = 50 yd.)
mm	< 150 mm	± 1 mm (std) ± .5 mm (special)	100 m
mm	150 mm ≤ w < 900 mm ≥ 900	0 mm to + 4 mm + 3 mm to + 7 mm	100 m (> 300 mm = 50 m)

Order and Product Information

To order Scotchlite reflective material products contact 3M Personal Safety Products Department Customer Service at 800-328-7098 Ext. 2.

Storage and Shelf Life

Store in a cool, dry area and use within one year after date of receipt. Store rolls in their original shipping cartons. Return partially used rolls to the carton or suspend horizontally through the core. Cut sheets should be stored flat.

Important Notice to Purchaser:

3M makes the following limited warranty in place of any others, express or implied, including any implied warranties of MERCHANTABILITY or fitness for a particular purpose or any implied warranty commonly found in the industry: 3M shall replace or, at its option, refund the price paid for any 3M™ Scotchlite™ Reflective Material or other 3M reflective products ("Products") which at the time of shipment to 3M's purchaser do not meet 3M's published Product specifications.

Because of the unlimited variety of potential applications for Products, BEFORE production use, the converter or end product manufacturer must determine that the Products are suitable for the intended use and are compatible with other component materials. Purchaser is solely responsible for determining the proper amount and placement of Products. While reflective Products enhance visibility, no reflective product can ensure visibility or safety under all possible conditions. **Neither 3M nor any 3M authorized converter shall be liable for any incidental, special, or consequential damages relating to the use or inability to use the Products regardless of legal theory asserted.**



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